



# **Department of Navy Kaizen Event Overage Specifications & Standards**

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# **Navy Caucus Refresher**

## **(From 2006 Standardization Conference)**

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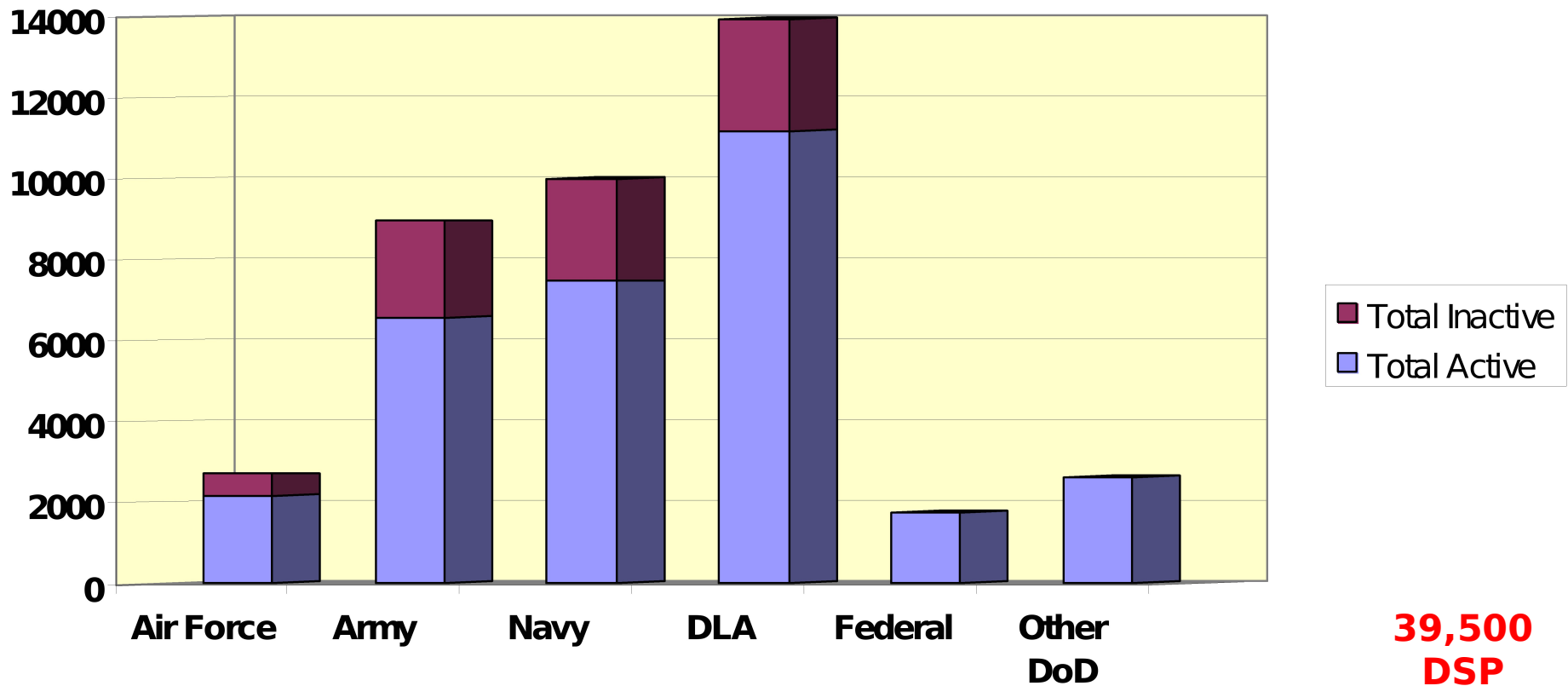
### **ENVIRONMENT**

- **Limited Resources For Managing DSP Documents**
  - *Navy Standardization Budgets Less than 50% of 1996*
  - *Resource Increases Not Anticipated*
    - **Competition for Resources --- Emphasis on Defense Programs**
- **Significant Workload**
  - *~ 10,000 Dept of Navy Prepared DSP Documents*
    - **Plus “Review” Interest in ~ 4,400 Documents Managed by Other**
  - *DoD Priorities Undefined ... Services/SYSCOMs Establish Own*
    - **NAVAIR ... Safety > Readiness > Performance > Other**
    - **NAVSEA ... Quantitative Scorecard By “Technical Authority”**
- **Perception ... DSP Procedures Need Re-Examination**
  - *Non-Value Added/Marginal Procedures Need To Be Streamlined*
  - *Few “Meaningful” DSP Metrics*
    - **Cost, Use/Value/Importance to User, Quality/Problems, etc**



# “Spec Ownership” Responsibilities

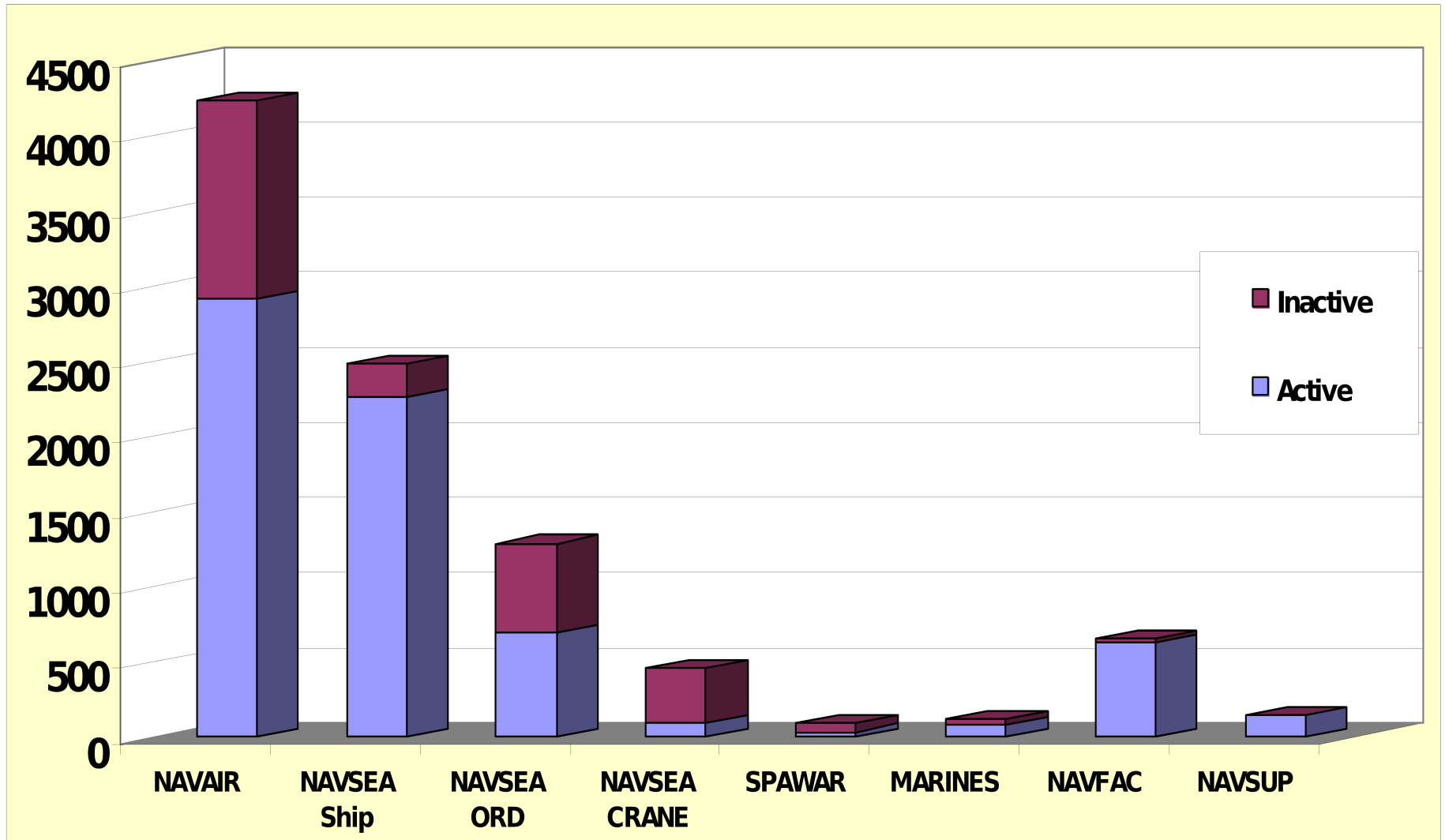
## Preparing/Adopting Activity Responsibility



**39,500  
DSP  
Documents**



# Specifications & Standards Preparing/Adopting Responsibilities





# 2006 Standardization Conference

## Department of Navy Caucus Proposal

- **1 or 2 Navy-Led Lean Six Sigma (LSS) Projects**
  - ***Navy Standardization Executive (DASN(L)) to Champion***
  - ***Process/Issue Selection by Dept of Navy***
    - ***"Int'l Stdzn Agreements" (DASN(L) Offer)***
    - ***"Overage Document Review" (Navy Caucus Offer)***
    - ***DSPO To Be Invited (Voice of the Customer)***
  - ***Black-Belt Managed***
  - ***Current Procedures Not Sacrosanct***
    - ***Candidates For Evaluation/Modification/Elimination***
    - ***Pilot Implementation With Waivers to Procedures (if necessary)***
  - ***DSC Evaluation Within 12-16 months For Broader Implementation***
  - ***Status Briefing at 2007 DSP Conference***
- **Deliverables:**
  - ***Candidate DSP Priorities or Prioritization Approach***
  - ***Proposed Procedural Changes***
  - ***Proposed Meaningful Metrics***



# Overage Document Review Requirement Background

- **DoD 4120.24-M, Chapter 5.9 Requires Validation, Revision, or Cancellation of DSP Documents At Least Every 5 Years**
  - *Ensure Specs & Standards Are Needed, Current & Correct*
  - *Broadly Applied (e.g., Applies to Dynamic vs. Stable Technologies)*
- **Impact on Dept of Navy**
  - *Resources Inadequate To Comply With Requirement*
    - *~34% of Dept. of Navy Documents are “Overage”*
    - *Backlog Will Grow Annually ... Resources Likely Won’t*
- **Is “Calendar-Based” Approach Best Way To Achieve Objective?**
  - *5-Year Requirement Appears Arbitrary*
  - *Alternatives (e.g., Risk-Based, User Feedback, etc) Worth Exploring*
  - *Need to Understand Primary Drivers of “Overage” and Impact to Fleet*



# Navy “Overage Document” Kaizen Event

- **Kaizen --- Lean- Six Sigma (LSS) Technique For “Quick Hits”**
  - *Short-Term, Intense LSS Approach*
- **Scope: Limited to NAVAIR & NAVSEA Managed DSP Documents**
- **Objectives: Reduce Backlog & Streamline Process**
  - *Document Quality At Least As Good As Current Requirements*
- **Participants: NAVAIR, NAVSEA, DSPO**
  - *NAVAIR & NAVSEA ~ 85% of DoN Documents*
  - *Facilitated By Master Black Belt, Black Belt, & Green Belt*
- **Timeline: 9-11 Jan 07**
  - *Preparatory Research & Work Nov/Dec 06*
  - *Follow-Up During 07*
- **Tools Applied: Typical LSS (Examples on Subsequent Slides)**
  - *SIPOC, Voice of Customer, Value Stream Mapping, Idea Affinity and Benefits vs. Effort Charting, etc*



# SIPOC - Improve the NAVAIR and NAVSEA specification and standards process for assuring the documents remain technically correct, current, and complete over time.

Suppliers	Inputs	Process	Outputs	Customer
<ul style="list-style-type: none"> <li>DoD engineers and logisticians (program offices, competencies, T&amp;E, etc)</li> <li>Contractor engineers</li> <li>Nongovernment Standards Organizations (e.g., SAE, ASTM, etc)</li> <li>OSD and Navy Policy Offices</li> </ul>	<ul style="list-style-type: none"> <li>Technical requirements from program offices, supply support offices, technical specialists, industry</li> <li>Feedback from contractors, DCMA, others</li> <li>DoD 4120.24-M procedures (Chapter C5.9)</li> <li>Listing of "overage documents" (EVN)</li> </ul>	<ul style="list-style-type: none"> <li><b>Step 1</b> ID, obtain, &amp; review documents that have not been published/validated w/i past 5 years</li> <li><b>Step 2</b> Assess:               <ul style="list-style-type: none"> <li>Current need by DoD</li> <li>Adequacy of tech req'ts</li> <li>Problem reports</li> <li>Compliance w/current policies, laws, regs</li> <li>Consistency with current commercial practice</li> </ul> </li> <li><b>Step 3</b> Determine one of the following outcomes:               <ul style="list-style-type: none"> <li>Validate</li> <li>Revise/Amend</li> <li>Inactivate for new design</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>DON managed Specifications and Standards that are needed, current, correct, and complete:               <ul style="list-style-type: none"> <li>Usable for design, test, acquisition, &amp; support.</li> <li>Public Law Compliance</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Customers:               <ul style="list-style-type: none"> <li>Government contracting Officers, contract managers, maintainers, engineers, QA, logisticians, testers, lawyers</li> <li>Industry (same specialties as above)</li> </ul> </li> <li>Stakeholders:               <ul style="list-style-type: none"> <li>OSD &amp; Service "RDT&amp;E"</li> <li>SYSCOMs, PEOs, DLA, &amp; DCMA</li> </ul> </li> </ul>

**VO Customer**

**X=Input Metrics**

**X=Process Metrics**

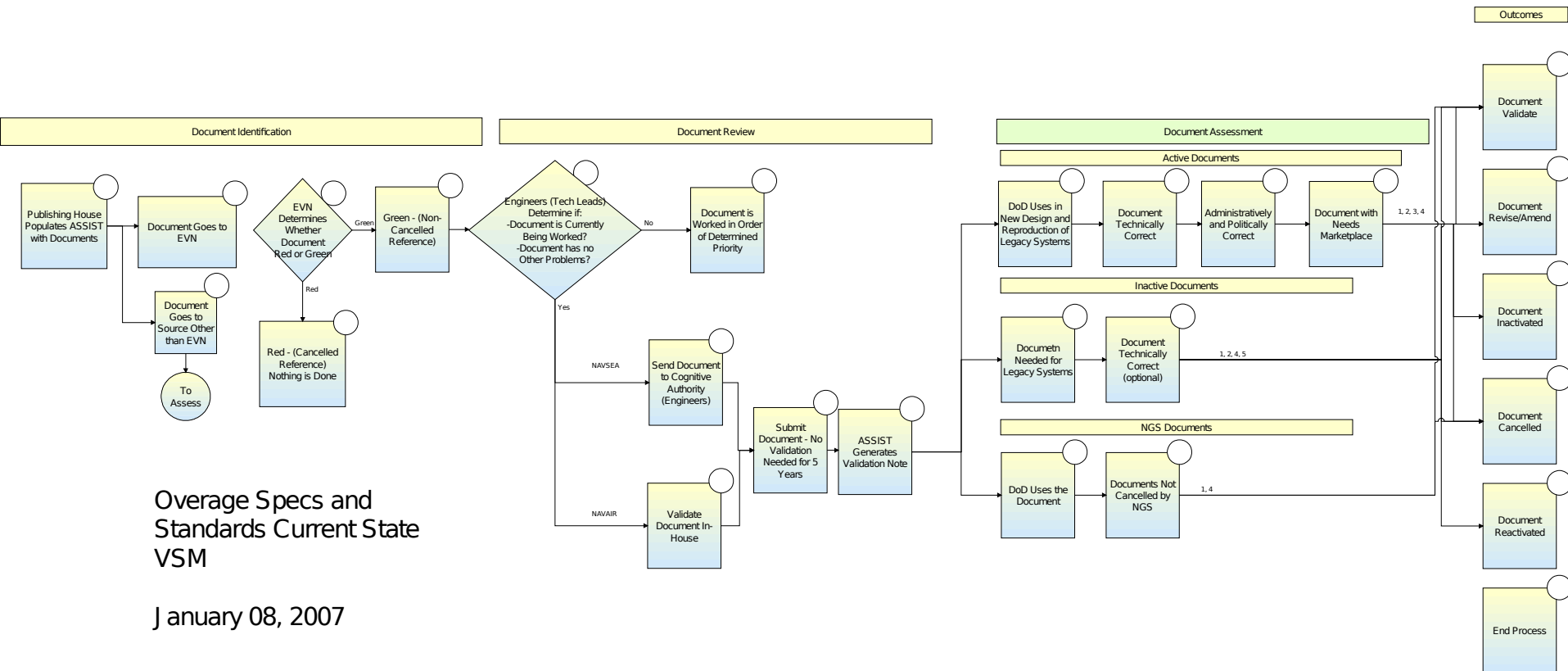
**Y=Output Metrics**

<ul style="list-style-type: none"> <li>34% of the Navy owned Specs and Stds are overage and there are not enough resources to review and validate them. (OSD)</li> <li>Cannot easily determine which specs and stds need tech change (Engineers)</li> <li>Further VOC TBD after Kaizen. (Users)</li> <li>Current and Accurate (Users)</li> </ul>	<ul style="list-style-type: none"> <li>Feedback               <ul style="list-style-type: none"> <li>Spec needs</li> <li>Contracts needs</li> </ul> </li> <li>Education/Communication</li> <li>Human Resources</li> </ul>	<ul style="list-style-type: none"> <li>Technical Content Deficiency Identification</li> </ul>	<ul style="list-style-type: none"> <li>Technical Content (Sec3)</li> <li>Verification and QA (Sec4)</li> </ul>	<b>Quality</b>
	<ul style="list-style-type: none"> <li>Feedback</li> <li>Prioritization</li> <li>Trigger to start</li> <li>Resources (Human and \$)</li> </ul>	<ul style="list-style-type: none"> <li>Cancelled References</li> <li>Policy - administrative, NGS validation</li> </ul>	<ul style="list-style-type: none"> <li>Reduced backlog within reasonable timeframe</li> <li>Manageable workload within available resources</li> </ul>	<b>Speed</b>
	<ul style="list-style-type: none"> <li>Current budgets or minimal change</li> <li>Policy</li> <li>Technology</li> </ul>	<ul style="list-style-type: none"> <li>NVA and BNVA tasks and process steps</li> <li>Cancelled References</li> </ul>	Same/Lower overall standardization budget cost of doing business	<b>Cost</b>



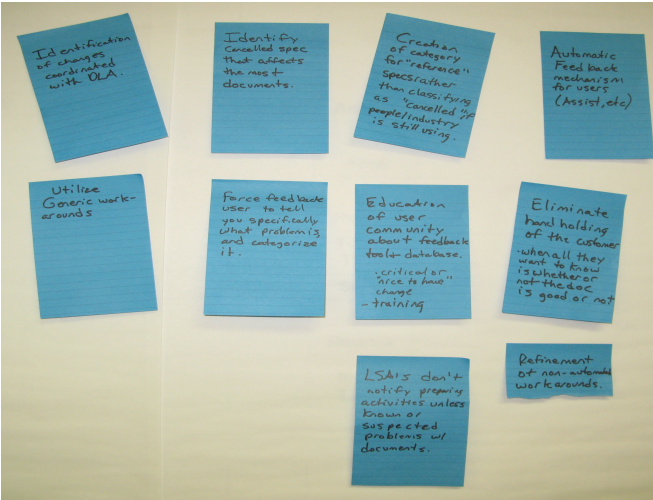


# Current State Map





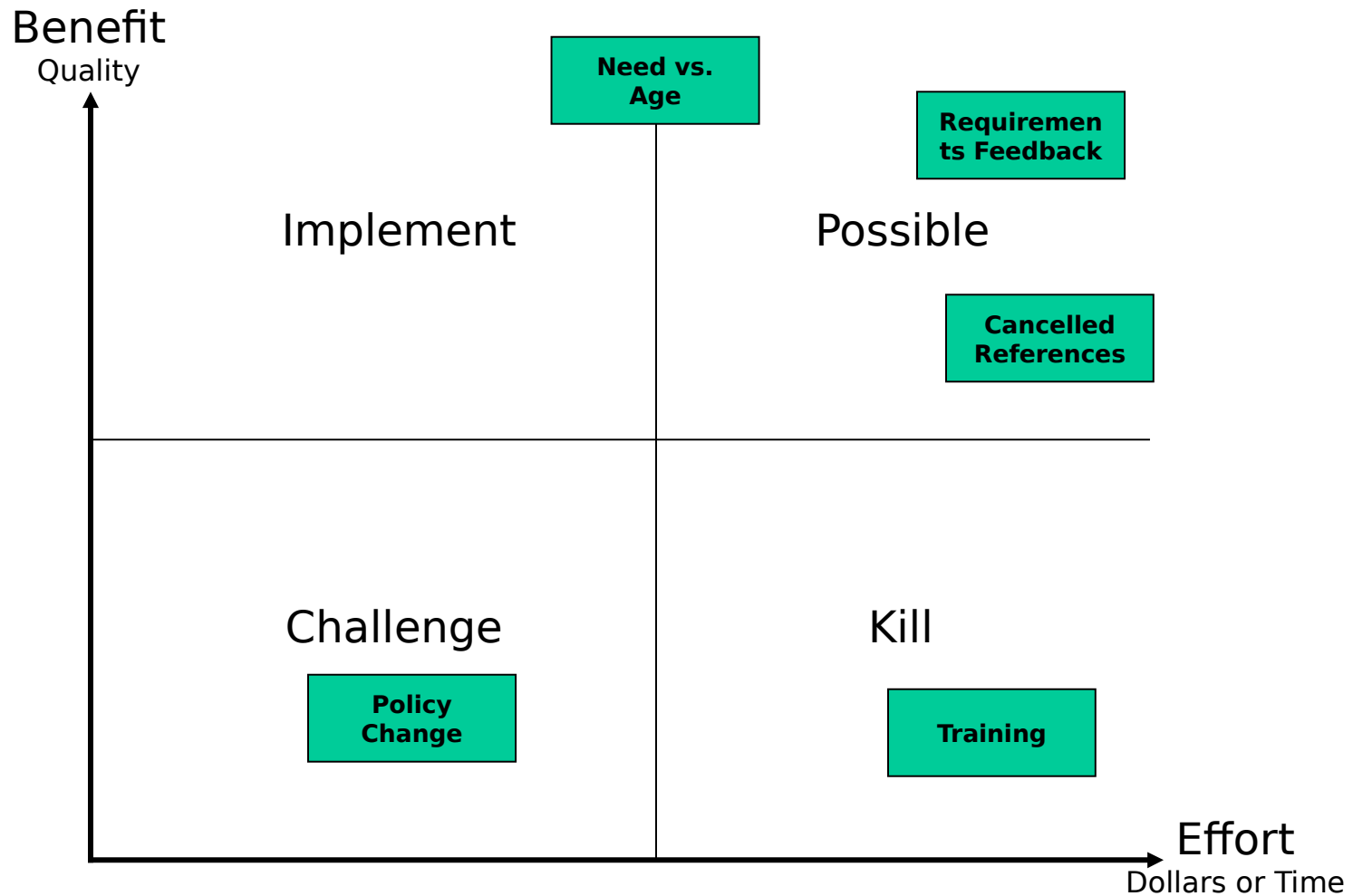
# Improvement Ideas - Affinity

Policy Change	Cancelled References	Need vs. Age	Other	Training	Requirements Feedback
Eliminate 5 yr validation requirement	Consider Reinstitution of cancelled references	Validate based on need not age	Continue the course unless know the problems are identified	Educate: value of validation exercise	Designation of product/Technology as fundamentally stable vs. dynamic
Eliminate requirement for validation of NGS	Strategy to "revisit" address cancelled document issues	Conditioned based document review vice calendar based		Mandate DoD-wide DSP Training	Use Assist Alert to seek user feedback
Change policy to allow commands to set priority on which doc's to work	Reinstate often cited cancelled referenced w/streamlined procedures	Problem/Risk based approach (Mgmt by exception vs. everything)			Web based document feedback
Extend age from 5yrs to more	Do not include docs w/o cancelled refs as "overage"				Create contracts organization spec feedback automation module
	Allow cancelled references				Tool to obtain DoD procurement by document
					Provide tools to assess tech problems - feedback module
					Make users aware of technical deficiencies
					Visibility of documents used in PM's spec/SOW

Additional Ideas Developed Over Course of Meeting



# Improvement Ideas - Benefit vs. Effort





# Overage Documents Kaizen Event Summary

- **3 Improvement Areas Clearly Stood Out**

- ➔ ***DSP Policy Should Be “Need-Based” vs. “Calendar- Based”***

- **Military & Commercial Equipment Maintenance Strategies Focus on Prognostics & Condition Based Maintenance (CBM)**
      - **Maintenance decisions based on actual equipment condition vs. time or usage intervals**

- ***Cancelled References Are The Greatest Driver Precluding Validation of “Overage” Documents***

- **Technical Content of “Overage” Spec Generally Satisfactory**
    - **Many Cancelled References Have Acceptable Supersessions**

- ***Automated Validation Would Be Possible IF Document “Condition” (User Feedback) & Cancelled Reference Issue Were Resolved***

- **Technology Could Be Built Into ASSIST**



# **1. Need vs. Age Approach (Condition Based Document Maintenance)**

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- ✓ **Prognostics (Predictive Indicators) Required**
  - ***User Feedback Needs To Be Collected***
    - Direct Feedback Provided to Preparing Activities
    - User Feedback via Other Means
    - Existing Discrepancy/Problem Reporting Mechanisms
    - Contracting/Procuring Activity “Mods/Addendum”
    - Technical Community (Gov’t/Industry) Known Issues
- ✓ **ASSIST Module To Collect/Report on Feedback**
  - ***Short-Term:***
    - Centralize Feedback Collection Preparing Activities Already Receive (DD 1426, emails, phone calls, etc) in Standardized Format
    - User Feedback Entry in ASSIST to Comment on Specific Documents
    - Investigate Spec-Related Issues in Existing DR Mechanisms
      - Marginal GIDEP utility (6 Spec-Related reports in 17 years)
      - Marginal PDREP utility (Limited “design-related” causes/info)
  - ***Longer-Term:***
    - Data Mine Contracting Office Mods/Addendums for Spec Deficiencies
      - Initially DLA and Navy procuring activities



## 2. Cancelled References “The Situation”

- **Defense Standardization Council (DSC) “Directed Action” in 1990s on ~70+ Military Specs & Stds During Acquisition Reform**
  - *Cancelled w/o Replacement - Cancelled w/ Replacement - Converted to HDBK*
    - MIL-STD-105 (Sampling) Referenced in 5,900+ DSP Documents
    - MIL-STD-109 (QA Terms) Referenced in 1,200+ DSP Documents
    - 8 Other Documents Are Each Referenced in 100+ DSP Documents
- **Impact of Cancelled References in Navy Managed Documents**
  - *2,137 References Cancelled ... Many With Superseding Documents*
  - *15 Cancelled References Impact 100-594 Active DSP Documents Each*
    - All but 1 Have Identified Superseding Documents
  - *40 Cancelled References impact 40-594 Active DSP Documents Each*
    - Most Have Identified Superseding Documents
  - *Some of the Superseding Documents have Subsequently Been Superseded*
- **Prior DSC Decision --- No Overage Validation Via “Hard Supersession”**
  - *Even if a Referenced Specification is Cancelled & Superseded by a Word-for Word Replacement, Specifications that Reference the Cancelled Document Cannot be “Validated” W/O Complete Review*



## 2. Resolving Cancelled References Options

- **Options Considered (Among Many):**
  - ***Reinstate Cancelled References as “Inactive for New Design” w/o requirement for revision***
    - Focus on Cancellations where Navy was Preparing Activity
    - Focus on Cancellations Not Directed by DSC
    - Need to Address those Cancelled by DSC
  - ***Address Cancelled References w/Greatest Impact Potential***
    - Focus on Cancellations where Navy was Preparing Activity
    - Focus on Cancellations Not Directed by DSC
    - Need to Address those Cancelled by DSC
  - ***Re-Address Policy Precluding Validation via “Hard Supersession”***
    - Focus on Those With Single, Current Superseding Document
      - Mass Amendment
    - Then Address Those With Optional Superseding Documents
      - Obtain Tech Expert Recommendation
      - Mass Amendment
    - Defer Cancellations Replaced by Multiple Superseding Documents
- ➔ **Combinations of Above**
  - ✓ ***Brief DSC & Obtain Approval If Necessary***



### 3. Automated DSP Document Validation

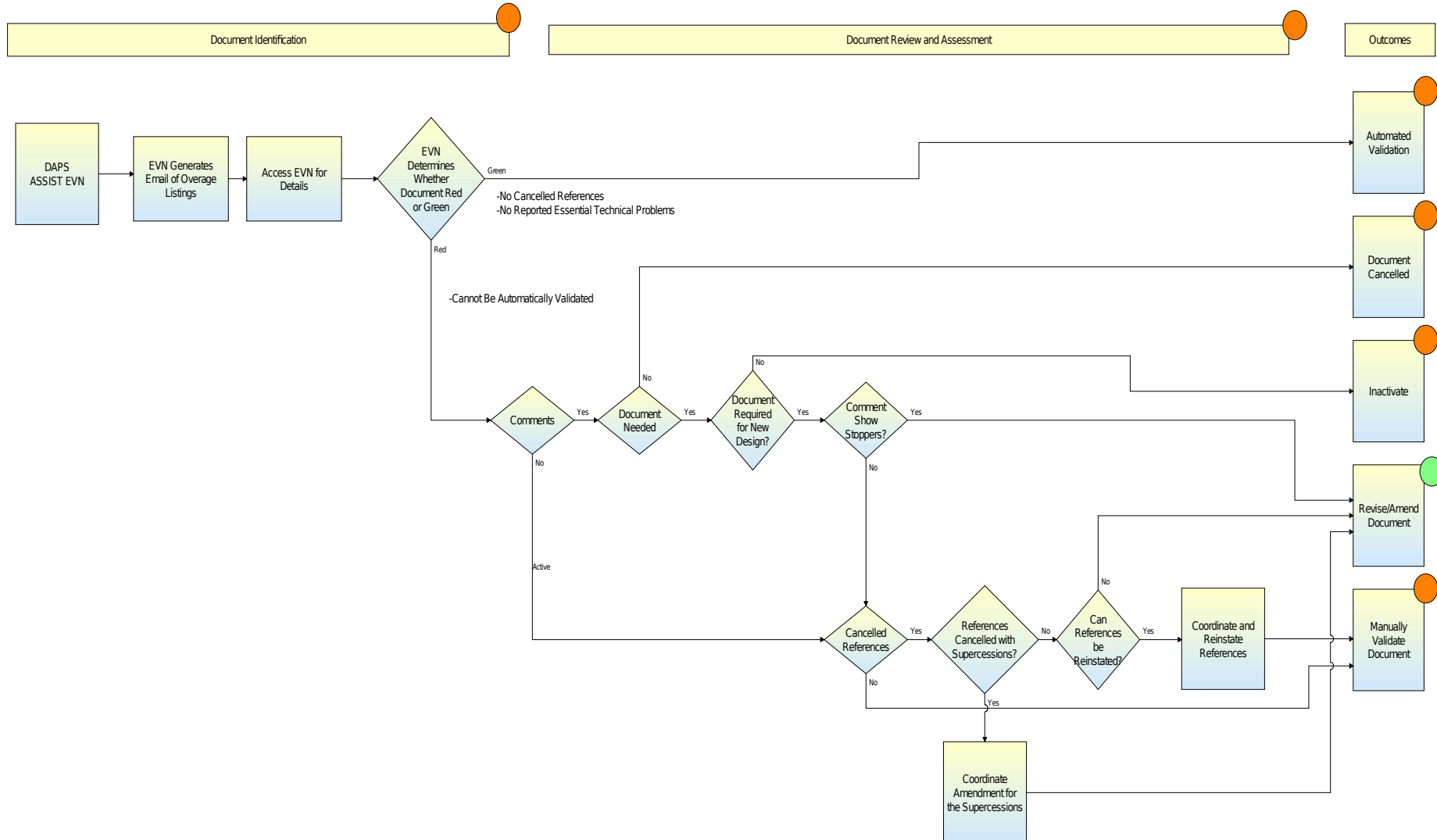
- **Current Capability --- ASSIST Extended Validation Utility (EVN)**
  - *Reports Specs/Std's With Document Dates 5-years or older*
    - Easy Validation of Documents Without Cancelled References
    - Specs w/Cancelled References Must Be "Corrected"
- ✓ **Automated Validation Concept \***
  - *EVN Determines Whether Specification Contains A Cancelled Reference AND Whether Feedback Against The Specification*
    - If "Green", ASSIST Automatically Validates The Document
    - If "Red", Preparing Activity Takes Appropriate Action
  - *Success Depends On:*
    - Establishing Automated Feedback Mechanism (Improvement # 1)
    - Solving Cancelled Reference Situation (Improvement #2)

\* *Value Stream Map on Next Slide*





# Validation of Active DSP Specifications and Standards Future State VSM





# Overage Document Improvement Summary

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- **Problem ... Current Procedures Exceed Resource Capability**
  - ***Calendar Based vs. Condition Based***
    - User Feedback Not Available in Actionable Manner
  - ***Policies on Cancelled References Causing Administrative "Overage"***
    - Supersessions to Cancellations Not Recognized for Validation
    - Cancelled References Often Still Used by Military & Civil Sector
- **Improvement Proposals**
  - ✓ ***Establish Standardized Feedback Collection Repository in ASSIST***
    - DSPO Lead ... CONOPS by end of FY07
  - ✓ ***Address/Readdress Cancelled References***
    - Obtain DSC Approval for "Hard Supersessions" of Cancelled References
    - Selectively Reactivate High-Impact Cancelled References
      - Obtain DSC Approval Where Required
  - ✓ ***Automate Document Validation***
    - Manual Validation Only When Indicated by Feedback AND/OR Document Contains A Cancelled Not Resolved by Improvement Proposal #2